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Notice of Allowability

Application No.

10/751,097

Examiner

Pho M. Luu

Applicant(s)

CERNEA ET AL.

Art Unit

2824

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to ____.
2. ☒ The allowed claim(s) is/are 1-26.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: ____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date ____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date ____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date See Continuation Sheet
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date ____.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☒ Other Search history.

Continuation of Attachment(s) 4. Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date: 08/22/06; 05/19/05; 12/20/04; 10/25/04

DETAILED ACTION

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

The application has been amended as follows:

9/12/06
In abstract: Page 29, line 1, replaces ~~the~~ "The present invention presents a non-volatile" with **--A non-volatile--**.

Page 29, lines 2-3, replaces ~~the~~ "According to another aspect of the present invention, substitute" with **--Substitute--**.

Page 29, line 6, replaces ~~the~~ "An inventory of the bad column" with **--The bad column--**.

2. Claims 1-26 are pending in the application.

Information Disclosure Statement

3. Acknowledgment is made of applicant's Information Disclosure Statement (IDS) Form PTO-1449, filed 22 August 2006. The information disclosed therein was considered.

Acknowledgment is made of applicant's Information Disclosure Statement (IDS) Form PTO-1449, filed 19 May 2005. The information disclosed therein was considered.

Acknowledgment is made of applicant's Information Disclosure Statement (IDS) Form PTO-1449, filed 20 December 2004. The information disclosed therein was considered.

Acknowledgment is made of applicant's Information Disclosure Statement (IDS) Form PTO-1449, filed 25 October 2004. The information disclosed therein was considered.

Allowance

4. Claims 1-26 is allowed.

The following is an examiner's statement of reasons for allowance:

There is no teaching or suggestion in the prior art to provide:

“a plurality of column select circuits connected to form a clocked shift register having a clock input, each connected to a respective data transfer circuit to provide the respective column select signal, and each having a fuse input, wherein when a fuse signal is asserted on the fuse input, the column select circuit asses the shift register pulse to next stage in the shift register without waiting for the clock and without asserting its respective column select signal” in a non-volatile memory as claimed in the independent claim 1. Claims 2-15 are also allowed because of their dependency on claim 1; or

“a memory portion containing bad column information and column select circuitry connected to the array and the memory portion containing bad column information wherein bad columns are replaced based on the bad column

information in a manner transparent to the controller” in a memory system circuit as claimed in the independent claim 16. Claim 17 is also allowed because of its dependency on claim 16; or

“a shift register comprising a plurality of pointer shift register stages coupled to the ROM memory portion, wherein each stage has a clock input and is coupled to an enable stage of either one or some of the programming, sensing data storage, input and/or input circuits except for those stages corresponding to a bad column as identified by the bad column information” in an integrated circuit as claimed in the independent claim 18. Claims 19-22 are also allowed because of their dependency on claim 18; or

the steps of **“clocking the shift register to advance the strobe bit from the first stage of the shift register to the subsequent stages to enable coupling of the corresponding subsequent latches to the input line, wherein when a stage is fused out the strobe bit is advanced through the fused out stage without being clocked and without the fused out stage enabling the corresponding latch to an input line”** in a method of operating an integrated circuit as claimed in the independent claim 23. Claims 24-26 are also allowed because of their dependency on claim 23.

5. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Cernea (Pub. No. U.S. 2003/0223274) discloses selection circuit for column of an array of memory cell is used to hold read and writes data of the memory cell.

Lee (U.S. 6,813,184) discloses a nand flash memory including a data loading circuit providing a program data bit into a page buffer having first and second latches.

7. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Pho M. Luu whose telephone number is 571.272.1876. The examiner can normally be reached on M-F 8:00AM – 5:00PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's Supervisor, Richard Elms, can be reached on 571.272.1869. The official fax number for the organization where this application or proceeding is assigned is 703.872.9306 for all official communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see

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<http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PML

11 September 2006.